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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/866,145 | 05/25/2001 | Richard Alan Haase | | 4449 |

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Mr Richard Haase
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| EXAMINER | |
|---|---|
| BARRY, CHESTER T | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1724 | |

DATE MAILED: 08/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/866,145 | HAASE, RICHARD ALAN | |
| | Examiner | Art Unit | |
| | Chester T. Barry | 1724 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *03 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-13, 15-21,39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 – 5, 7 - 9, 15-18, 21, 39* is/are rejected.

7)☒ Claim(s) *6, 10, 11, 12 – 13, 19 - 20 for* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Sec. 112, second parag. - "Variety"

Claim 20 and

Claims 2 – 3 are rejected under 35 USC §112, second paragraph for failing to particularly point out and distinctly claim the subject matter for which patent protection is sought. In claim 2, it is unclear what a "(DADMAC) variety" is because DADMAC is a unique compound. Similarly, in claim 3, it is unclear what an "(epi-DMA) variety" is because epi-DMA is a unique compound. It is not a genus to which more than one specie belongs. See the previous Office action. Applicant has shifted from "family" to "variety" without resolving the ambiguity-of-scope issue.

The points made above with respect to claims 2 and 3 apply to claim 20 as well.

The issue surrounding use of the "variety" terminology is not whether applicant envisioned more than just DADMAC and epi-DMA: The issue is whether the skilled artisan would have – with a reasonable degree of certainty – which compounds other than DADMAC are nonetheless of the "DADMAC variety." Importantly, notwithstanding the Breslin declaration,[1] there no evidence of any art-recognized acknowledgement or understanding of what non-DADMAC compounds or classes of compounds are recognized in the art as being of the "DADMAC variety." While applicant may be his own lexicography, he must provide in his original specification a reasonably precise

[1] The mere fact that DAMEAC or DAEEAC could be made does not evidence a recognition in the art that either of these compounds, or any other compound for that matter, are recognized in the art as being of the "DADMAC variety." The declaration merely begs the question, what compounds of the DAMEAC variety are not of the DADMAC variety and which are? Similarly with respect to compounds of the DAEEAC variety. The point made at paragraph 7 of the declaration simply re-frames the same issue differently. In conclusion, unless and until applicant can produce evidence that the skilled artisan would have understood a specific list a named compounds to have been recognized at the time the invention was made to be of the DADMAC variety (or epi-DMA variety), the question of fair notice to the public as to the metes and bounds of claims 2, 3, and 20 will remain issues in this case.

definition of what he means by "DADMAC variety" so that others may be put of fair notice of what not to do in order to avoid infringing applicant's would-be property, should this application reissue as a patent. Similar comments relate to epi-DMA.

Narrowing the scope of possible compounds to DADMAC or to epi-DMA would overcome this rejection and facilitate allowance of the application.

Applicant's remarks at the bottom of page 18 of the response are encouraging, but until applicant narrows the scope of the claims to methods reciting use of DADMAC (or epi-DMA, as the case my be), this contentious Sec. 112 issue remains before the examiner.

Claims 1 – 5, 7 - 9, 15, 17, 21/17, 39/17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eberhard in view of Williams and Lo Sasso.

USP 5019267 to Eberhard describes a method of dewatering biological sludge from a constant 50°C (col 5 line 58) digestion process by adding a cationic polymeric flocculent, i.e., Zetag 92, to the thermophilic biological sludge. As evidenced by USP 5561520 to Williams, Zetag 92 is an ultra-high molecular weight polyacrylamide carrying a medium charge density (col 6 line 10) Accordingly, Eberhard describes a method of dewatering a thermophilic biological sludge in which a cationic polyacrylamdie is added to the thermophilic biological sludge. Eberhard does not describe adding aluminum sulfate or ferric chloride to the thermophilic biological sludge.

USP 3642619 to Lo Sasso describes a synergistic benefit is using a combination of cationic polyacrylamide and ferric chloride to effect dewatering of a biological sludge. The skilled artisan would have had a reasonable expectation of success in improved dewatering performance of Eberhard's thermophilic biological sludge by using a combination of ferric chloride and Zetag 92, as suggested by Lo Sasso.

Claims 2 and 3 specify more specifically than in claim 1 the chemical identity of the polyquaternary ammonium compound, but none of claims 1 – 5, 7 requires that the polyquaternary ammonium compound or aluminum sulfate be present. Claim 1 merely states that the primary component "***may*** also comprise" the polyquaternary ammonium compound (emphasis added").

Per claims 8-9, the concentration of a dewatering polymer relative to solids content in a dewatering operation was at the time the invention was made known to have an effect on the dewatering performance. Therefore, it would have been obvious to have varied and optimize this parameter for particular sludges.

Per claim 39/17, it was well known to mixed primary sludge with digested sludge in such processes, so it would have been obvious to have done so using Eberhard's process as well. See for example, United States Patents:

4380496, USP 3613564, and USP 3397139,

Claim 16, 18, 21/16, 21/18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eberhard in view of Williams and Lo Sasso.

USP 4193869 is directed to wastewater treatment. It teaches that organic polymers can be used with an inorganic coagulant such as ferric chloride and aluminum sulfate (alum) while USP 5500131 to Metz teaches that combinations of ferric chloride and aluminum sulfate flocculents can be used. It would have been obvious therefore to have used aluminum sulfate in place of ferric chloride, or to have used a combination of ferric chloride and aluminum sulfate in the Eberhard method as modified by Lo Sasso, as suggested by Metz or USP 4193869.

Objection is made to claims 6, 10, 11, 12 – 13, 19 - 20 for dependence on a rejected base claim, but would be allowed if presented in independent form.

CHESTER T. BARRY
PRIMARY EXAMINER
571-272-1152